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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,850	10/23/2003	Steven M. Arnold	LEW 17,494-1	3672

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NASA GLENN RESEARCH CENTER  
21000 BROOKPARK ROAD  
OFFICE OF CHIEF COUNSEL; MAIL STOP 500-118  
CLEVELAND, OH 44135

EXAMINER
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RODRIGUEZ, WILLIAM H

ART UNIT	PAPER NUMBER
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3746

MAIL DATE	DELIVERY MODE
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07/16/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/693,850

Applicant(s)

ARNOLD ET AL.

Examiner

William H. Rodriguez/

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-93 is/are pending in the application.
- 4a) Of the above claim(s) 18-28, 75-89, 91 and 92 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 14, 29-36, 38, 39, 52-54, 59-62, 65-67, 74, 90 and 93 is/are rejected.
- 7) ☒ Claim(s) 6-13, 15-17, 37, 40-51, 55-58, 63, 64 and 68-73 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 10/23/03.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of species IV in the reply filed on 06/04/2007 is acknowledged. Upon further consideration claims 1-17, 29-33, 90 and 93 have been rejoined to elected claims 34-74. Therefore, claims 1-17, 29-74, 90 and 93 are being examined.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "the contoured vanes being nonuniform (claim 74)" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

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be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 74 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 74 recites the limitation “said contoured vanes being nonuniform” in lines 4-5. It is unclear with respect to what applicant is comparing the vanes as being nonuniform (i.e., nonuniform in shape—irregular shape, nonuniform in size—ones bigger than the others). Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

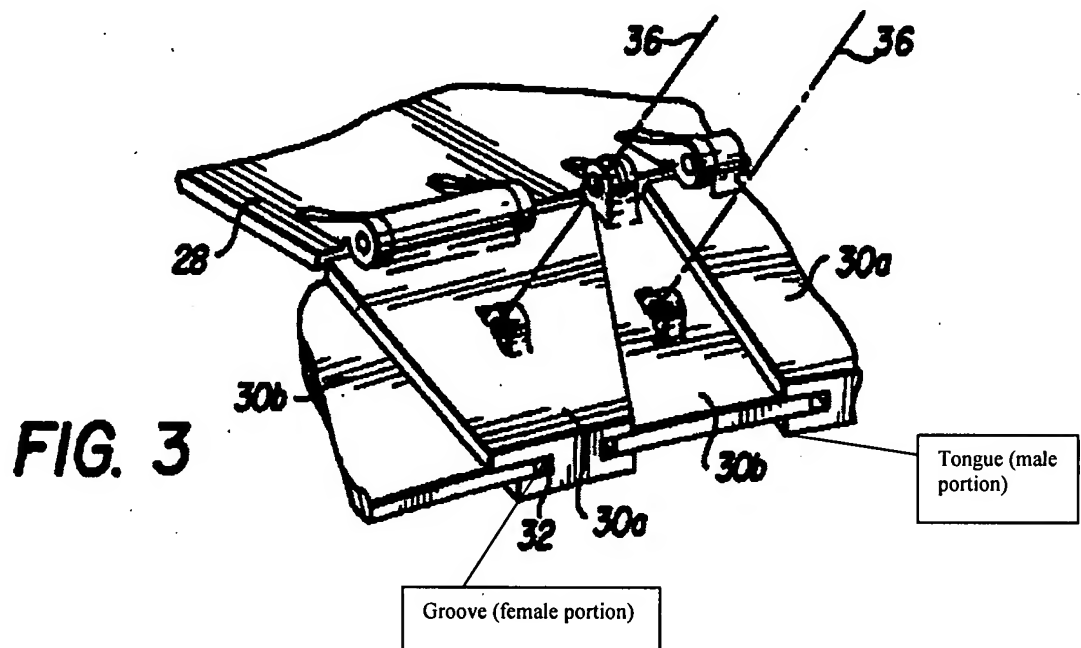
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-5, 14, 29-39, 52, 59-62, 65-67, 90 and 93 are rejected under 35 U.S.C. 102(b) as being anticipated by Lewis (US 5,273,213).

Lewis teaches (particularly figures 2-3) a variable area nozzle for use in a gas turbine engine comprising: a concentric support 28; a plurality of trapezoidal flaps (30a, 30b) circumferentially and rotatably mounted to said concentric support forming a nozzle positionable between a first position

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corresponding to a minimum area nozzle and a second position corresponding to a maximum area nozzle; each of said plurality of trapezoidal flaps engages an adjacent flap sealing said nozzle in all positions between and including said first position corresponding to a minimum area nozzle and a second position corresponding to a maximum area nozzle, wherein said flaps have an interior surface and exterior surface, said surfaces including a contour, an actuator for moving said flaps between said first position and said second position, each of said flaps having a male tongue and a female groove portion (see marked up figure 3 below), said minimum area nozzle forming a conical shape.



7. Claim 52 is rejected under 35 U.S.C. 102(b) as being anticipated by any of the following references: Zysman et al. (US 6,487,848); Nesbitt et al. (US 6,718,752); Hooker (US 3,263,417).

Any of these references teaches a variable area nozzle for use in a gas turbine engine comprising: a concentric support; a plurality of flaps circumferentially and rotatably mounted to said concentric support forming a nozzle positionable between a first position corresponding to a minimum area nozzle and a second position corresponding to a maximum area nozzle.

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8. Claim 90 is rejected under 35 U.S.C. 102(b) as being anticipated by Hooker (US 3,263,417).

Hooker teaches (particularly figures 1-2) a variable area nozzle for use in a gas turbine engine comprising: a concentric support; a plurality of flaps (5, 6) circumferentially and rotatably mounted to said concentric support forming a nozzle positionable between a first position corresponding to a minimum area nozzle and a second position corresponding to a maximum area nozzle, said minimum area nozzle forming a conical shape.

9. Claims 52-54 and 59-62 are rejected under 35 U.S.C. 102(b) as being anticipated by McLafferty et al. (US 5,261,605).

McLafferty teaches (particularly figure 1) a variable area nozzle for use in a gas turbine engine comprising: a concentric support 12; a plurality of flaps 20, 22 circumferentially and rotatably mounted to said concentric support forming a nozzle positionable between a first position corresponding to a minimum area nozzle and a second position corresponding to a maximum area nozzle, a metal seal (26, 28) for engaging said plurality of flaps, and an actuator 66 for moving said flaps between said first position and said second position.

10. Claim 74 is rejected under 35 U.S.C. 102(b) as being anticipated by Brausch et al. (US 6,360,528).

Brausch teaches (particularly figures 2, 3 and 6) a variable area nozzle for use in a gas turbine engine comprising: a concentric support 16; a plurality of flaps 18 circumferentially and rotatably mounted to said concentric support forming a nozzle positionable between a first position corresponding to a minimum area nozzle and a second position corresponding to a maximum area nozzle, said lengths of said flaps being nonuniform.

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***Allowable Subject Matter***

11. Claims 6-13, 15-17, 37, 40-51, 55-58, 63, 64 and 68-73 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Contact information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /William H. Rodríguez/ whose telephone number is 571-272-4831. The examiner can normally be reached on Monday-Friday 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Stashick can be reached on 571-272-4561. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William H. Rodríguez/  
Primary Examiner  
Art Unit 3746

6/27/07